REMARKS

Claims 1, 3, and 5-26 are pending in this application. By the Office Action, claims 1-26 are rejected under 35 U.S.C. §102(e). By this Amendment, claims 1, 3, 5, 9, 11, and 15 are amended and claims 2 and 4 are canceled. Support for the amended claims can be found in the previous pending claims. No new matter is added.

I. Rejection Under §102

Claims 1-26 are rejected under 35 U.S.C. §102(e) over Gudesen. Applicants respectfully traverse this rejection.

Independent claim 1 is directed to a method of manufacturing a ferroelectric memory device, comprising the steps of: (a) forming a peripheral circuit section for selectively writing information into or reading information from a memory cell over a semiconductor substrate; and (b) forming at least first signal electrodes, second signal electrodes arranged in a direction intersecting the first signal electrodes, and a ferroelectric layer disposed at least in intersection regions between the first signal electrodes and the second signal electrodes, and forming a memory cell array in which memory cells are arranged in a matrix, wherein the peripheral circuit section is formed in a region outside the memory cell array, wherein the step (b) comprises steps of: (b-1) forming the first signal electrodes; (b-2) forming the ferroelectric layer linearly along the first signal electrodes; and (b-3) forming the second signal electrodes. Independent claim 11 is directed to a method of manufacturing a ferroelectric memory device comprising the steps of, (a) forming a peripheral circuit section for selectively writing information into or reading information from a memory cell over a semiconductor substrate; and (b) forming at least first signal electrodes, second signal electrodes arranged in a direction intersecting the first signal electrodes, and a ferroelectric layer disposed at least in intersection regions between the first signal electrodes and the second signal electrodes, and forming a memory cell array in which memory cells are

arranged in a matrix, wherein the peripheral circuit section is formed in a region outside the memory cell array, wherein the ferroelectric layer and the second signal electrodes are formed in a direction intersecting the first signal electrodes, and wherein the ferroelectric layer is formed linearly along the second signal electrodes. Such methods are nowhere disclosed in Gudesen.

Gudesen discloses a ferroelectric data processing device for processing and/or storage of data with passive or electrical addressing. In the deice, a data-carrying medium is used in the form of a thin film (1) of ferroelectric material which by an applied electric field is polarized to determined polarization states or switched between these and is provided as a continuous layer in or adjacent to electrode structures in the form of a matrix. A logic element (4) is formed at the intersection between an x electrode (2) and a y electrode (3) of the electrode matrix. The logic element (4) is addressed by applying to the electrodes (2, 3) a voltage greater than the coercively field of the ferroelectric material. Dependent on the polarization state and the form of the hysteretic loop of the ferroelectric material a distinct detection of the polarization state in the logic element (4) is obtained and it may also be possible to switch between the polarization states of the logic element, which hence may be used for implementing a bitable switch or a memory cell. The data processing device according to the invention may be stacked layer wise if the separate layers are separated by an electrical isolating layer and hence be used for implementing volumetric data processing devices. Gudesen at Abstract. Gudesen does not disclose all of the claim elements.

A. Gudesen Does Not Disclose the Ferroelectric Layer Formed Linearly Along Signal Electrodes

According to claim 1, the ferroelectric layer linearly along the first signal electrodes. According to claim 11, the ferroelectric layer is formed linearly along the second signal

electrodes. However, Gudesen fails to disclose that the ferroelectric layer is formed linearly along the signal electrodes.

In Gudesen, Figs. 1, 2, 3a, and 3b, disclose a device that features a memory region in which a ferroelectric film 1 is formed between electrodes 2 and 3; and a ferroelectric memory on which a control circuit 5 is formed outside of the memory region. In the device of Gudesen, the ferroelectric film 1 is provided as a continuous layer, but not as a linear shape.

In contrast to Gudesen, the claimed invention requires that the ferroelectric layer is formed linearly along the respective signal electrodes. Gudesen does not disclose forming the ferroelectric layer linearly along the signal electrodes.

B. Gudesen Does Not Disclose the Ferroelectric Layer Is Disposed Between the First and Second Signal Electrodes

According to each of claims 1 and 11, the ferroelectric layer is disposed at least in intersection regions between the first signal electrodes and the second signal electrodes. However, Gudesen fails to disclose that the ferroelectric layer is formed between the first and second (or upper and lower) electrodes.

In Figs. 4-6 of Gudesen, the reference discloses an isolating layer 6 of electrical isolating material between electrodes 2 and 3. See, for example, Fig. 10. In Gudesen, the ferroelectric layer 1 is embedded between the electrode 3 and the isolating layer 6.

In contrast, in the claimed invention, the ferroelectric layer disposed between the first signal electrodes and the second signal electrodes. The claimed invention does not specify forming an isolating layer 6 between the electrodes, but instead requires that the ferroelectric layer disposed between the first signal electrodes and the second signal electrodes. Gudesen does not teach or suggest at least this additional limitation of the claims.

C. Conclusion

For at least these reasons, Gudesen does not disclose all of the features of claims 1 and 11. Gudesen thus does not anticipate claims 1 and 11, or their dependent claims. Reconsideration and withdrawal of the rejection are respectfully requested.

II. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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